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ABSTRACT

This study investigates the effects of social relationships curricula and sex differences on reading readiness and imaginativeness. The subjects were ninety-six 5-year-olds from four kindergarten classrooms. In the pre- and post-assessment phase of the study the children were administered the Gates MacGinitie Reading Readiness Skills Test and the Singer Imaginativeness Inventory. Half of the group of subjects were assigned to experimental and half to control treatments, both involving 15 minutes per day, five days per week for seven consecutive months. The experimental treatment consisted of strategies for developing and using role play with the children and emphasized feelings, concerns and interests of the students, perceptions of the other, cooperation, helping, and individual and social group problem solving through role enactment. The control group of children engaged in individual art and craft activities. Several preliminary analyses were run on pre-test scores. The results of a 2 (treatments) x 2 (sex) analysis of variance indicated no significant main or interaction effects on IQ. The results of F tests (f/max) on treatment-sex conditions (e.g., experimental girls; control girls, etc.) showed non-significant differences between groups on both measures. The main analyses consisted of two 2 (treatments) x 2 (sex) analysis of covariance on reading and imaginativeness measures with post-hoc tests. The results indicated that children in experimental treatments outperformed those in control treatments, girls outperformed boys on reading and imaginativeness, and experimental girls did better than control boys on imaginativeness. (Author/SS)

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The Effects of Social Relationships Curricula and Sex Differences on Reading and Imaginativeness in Young Children[1,2]

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The Effects of Social Relationships Curricula and Sex Differences on Reading and Imaginativeness in Young Children[1,2]

ABSTRACT

The study investigated the effects of social relationships curricula and sex differences on reading readiness and imaginativeness in five year old children. Several preliminary analyses were run on pre-test scores. (a) The results of a 2 (treatments) x 2 (sex) analysis of variance indicated no significant main or interaction effects on I.Q. (b) The results of F_{max} tests on treatment-sex conditions (e.g., experimental-girls; control-girls, etc.) showed non-significant differences between groups on both measures. The main analyses consisted of two 2 (treatments) x 2 (sex) analysis of covariance on reading and imaginativeness measures with post-hoc tests. The results indicated that children in experimental outperformed those in control treatments, girls outperformed boys on reading and imaginativeness, and, experimental-girls did better than control-boys on imaginativeness.

The Effects of Social Relationships Curricula and Sex Differences on Reading and Imaginativeness in Young Children

INTRODUCTION

Social relationships, regarded by Mand (11) as the FOURTH BASIC 'R, has been largely ignored in formal school curricula at all grade levels. Social relationships, according to Mand (11), is the affective or social-cognitive capacity of the individual to relate to and be able to perceive the "other." Currently Mand (11) notes that it is relegated to "recess", "free play", "social education classes", or randomly spaced teacher-guided instruction depending on pupil's needs. Then too, the feeling that systematic planning is more important for cognitive than affective growth has long been an issue in early childhood and general curriculum development. Further, when growth of social relationships is seen as the opposite of cognitive development, similar to play juxtaposed to work, the importance of systematic planning for affective learning further diminishes. The push for the Basic Three 'Rs and disagreements over the objectives of schooling have helped to reduce the importance of the FOURTH 'R in early childhood and curriculum programming.

However, some curriculum developers and planners are reconsidering the importance of social relations and other forms of affective curricula. On a more general level, Tanner and Tanner (22) and Ball and Bogatz (2) and for early childhood curricula, Evans (5), Messick and Barrows (14), and Palmer, Cazden and Glick (16), as examples, emphasize planning, implementing and evaluating of social relationships curricula and other forms of

affective learning in school programs. Then too, research results (3, 17, 19) show that "imaging" or the capacity to mentally project the feelings and thoughts of "others" is the intersect between the development of social relationships, as one affective component, and cognition. Role play, the capacity to change oneself into another person or object, provides the opportunity for "imaging" to occur (17, 19, 20).

More specifically, research results of Aspy and Roebuck (1), Piaget (17), Saltz, Dixon and Johnson (18), Singer (19) and Smilansky (20) show that growth of social relationships is linked with development of both affective and cognitive processes and is significance to intellectual learning.

The research results of Aspy and Roebuck (1) show a high positive correlation between students who had high ratings on social awareness and empathy and those who scored high on intelligence measures. These same students also had teachers who were rated high on personal regard for pupils classroom performances. Similarly, the results of studies conducted by Saltz, Dixon, and Johnson (18) and Smilansky (20) further support the: (a) importance of social relationships; (b) link it with cognitive growth and learning; and, (c) show the impact of social relationships using role playing on intellectual and affective processes in young children. Saltz, Dixon, and Johnson (18) reported that children trained in social relationships curricula through role play showed greater empathy and feeling for the other, more individual and group impulse control and made greater gains in cognitive growth than those in the control groups. The results of Smilansky's (20) research, using role play episodes with children from high and low socio-economic statra (SES), indicate that low

SES subjects who role played and those who role played and received supplemental life experiences significantly changed their social and language behaviors toward the high SES (compared to other low SES subjects who did not receive role play experiences). The research results (20) of greater social awareness, more inter-personal actions of group members, and increased number of original words used in sentences (compared with baseline samples) show the importance of role play and its association with social relationships and language learning.

The research results of Aspy and Roebuck (1), Saltz, Dixon, and Johnson (18), and Smilansky (20) have: (a) documented the relationship of the FOURTH 'R to intellectual and affective learning; (b) operationalized social relationships using its element of role play; and (c) showed the efficacy of developing, implementing, and evaluating social relationships curricula through role playing relative to intellectual and affective measures in young children.

The present investigation focused on the effects of: (a) social relationships curricula through role playing on measures of reading achievement and imaginativeness; and, (b) sex differences on measures of reading achievement and imaginativeness in young children.

Previous research studies surveyed have not explored social relationships curricula through role playing: (a) on measures of reading achievement and imaginativeness in young children; (b) in conjunction with main effect of sex on the measures; and, (c) as a BASIC 'R that can be implemented and taught as a viable part of kindergarten curricular programming.

Accordingly, the null hypotheses of major concern in the study are that there will be no differences: (a) between social relationships

curricula and control treatments on reading readiness and imaginativeness measures; and, (b) between girls and boys on reading readiness and imaginativeness measures.

PROCEDURES

Subjects. The subjects were 96 children five years of age. Twenty-four children, 12 girls and 12 boys, in each of four intact classrooms in four elementary schools in two adjoining suburban school districts were employed in the study. The schools and classrooms were chosen because of the cooperativeness of the teachers and building principals and the same number of girls and boys per classroom. With the names of the teachers placed on cards and pulled from a container without replacement, two classrooms were randomly assigned an experimental and the other as control treatment groups. All children were pulled from a middle class socio-economic population as represented by the white collar occupations of the heads of household. The occupations included sales and insurance personnel, education and nursing fields, secretarial staff and other representatives of white collar professions (23). Procedurally, the study consisted of two phases: (a) assessment and, (b) treatment.

Assessment. The pre and post assessment phases were administered in September and again in May of the school year. In the pre and post assessment phase, the children were administered the Gates MacGinitie Reading Readiness Skills Test (8) and the Singer Imaginativeness Inventory (19). The Gates MacGinitie is a group test that measures reading achievement across eight skill areas, such as listening and auditory comprehension,

letter and word recognition. The child's responses are scored correct or incorrect. The Singer is an individually administered test, containing 10 questions, and assesses the level of imaginative predispositions in young children. An example of a stimulus item from the Singer, is, "Do you have a make-believe friend? - What are some of the things you do with your make-believe friend?" The child's answers per stimulus item are then scored on a 1 (i.e., low imaginativeness) to 5 (i.e., high imaginativeness) scale. In the pre-test (but not in the post-test) phase, the subjects were administered the Peabody Picture Vocabulary Test: Form B to preliminary assess possible I.Q. differences among the four treatment groups. After the pre-test phase terminated, the treatments began.

Treatment. The duration of the experimental and control treatments was 15 minutes per day---five days per week across seven consecutive months. The treatments were administered immediately following the kindergarten mathematics readiness program rather than reading readiness to reduce possible "carry-over" effects of reading content into experimental and control conditions. To counterbalance for the time of treatment administration, one experimental treatment occurred in the A.M. the other in the P.M. session and the control treatments in similar fashion were divided between A.M. and P.M. given full day kindergarten programs.

In the experimental treatment, the two teachers implemented social relations curricula through role taking. Basically, they were trained to employ eight basic strategies for developing and using role play with young children. The strategies, described in detail elsewhere by Yawkey (25), focused on: (a) setting-up role play experiences in individual and small groups (of no more than five participants); (b) using shared communication

between peers and between the adult and child for role taking experiences; (c) employing incidental learning experiences as role activities; and, (d) utilizing children's stories read to pupils as grist for role play activities. From social relationships' perspectives, the experimental treatment emphasized feelings, concerns and interests of the students, perceptions of the other, cooperation, helping and individual and social group problem solving through role enactment. Essentially, the students in the experimental group were required to view themselves in relation to the other.

In the control treatment, the two teachers used ordinary paste and cut and art and craft activities. The activities in the control group were completed on an individual basis by children working at their desks. The type and form of the experiences helped minimize child-child interaction while at the same time emphasized work products and their completion. In addition, the activities in the control treatment were motor based and required the children to use small and large muscles and motoric movements. The paste and cut and art and craft experiences were largely based on holiday themes and special events that occurred in the elementary school during the weeks and months. A secondary source for the activities was art and craft books from which various independent seat-work activities were selected by the teacher.

ANALYSIS

There were a number of analyses initially conducted on the pre-test measures. For the initial pre-test analysis, the results of the variables of: (a) treatment groups (i.e., experimental versus control); and, (b) sex (i.e., boys versus girls) on Peabody Picture Vocabulary Test (P.P.V.T.)

scores, using a two way analysis of variance to test null hypotheses of no differences on P.P.V.T.-I.Q. between and within conditions, showed that neither main nor interaction effects were significant (i.e., for treatments, $F = 1.22$, $df = 1/92$, $p > .05$ and for sex, $F = 1.95$, $df = 1/92$, $p > .05$).

For the Gates MacGinitie, the raw scores ranged from 0 to 142 and for the Singer, 10 to 50 (with on inter-rater agreement of .93 for the pre-test and .98 for the post-test). Two other analyses, prior to treatment, were run on the Gates MacGinitie and Singer pre-test scores. Hartley's F_{max} test, as described by Winer (24), was used across four treatment-sex conditions (i.e., experimental-girls, control-girls, experimental-boys; and, control-boys) on pre-test Gates MacGinitie and for pre-test Singer scores. The F_{max} test for homogeneity of variance was used to determine whether the subjects in the treatment-sex conditions differed from one another on Gates MacGinitie and Singer scores prior to treatments. The results of the F_{max} test showed that the subjects did not differ significantly across treatment-sex conditions on the Gates MacGinitie and Singer measures. Preliminary analyses showed that across the four classrooms, the subjects in the treatments by sex conditions on P.P.V.T. and treatment-sex conditions on Gates MacGinitie and Singer measures were homogeneous relative to the tests and treatment groups employed.

For pre-post test analyses, the variables of: (a) experimental and control treatments; and, (b) girls and boys were crossed orthogonally implying a 2 x 2 factorial analysis of covariance as described by Winer (24). Two separate analyses, one on the Gates MacGinitie and the other on Singer were run with pre-test scores serving as the covariate variable and the post-test scores the criterion variable for each set of measures, respectively.

On the Gates MacGinitie measure, the results of the analysis showed signigicant main but no significant interaction effects. On the Singer measure, the results of the analysis evidenced significant main and interaction effects. The summary table for the analysis for covariance on the Gates MacGinitie and Singer measures are shown in Tables 1 and 2, respectively.

Table 1

Summary for Analysis of Covariance for Main and Interaction Effects on Gates MacGinitie Scores for Treatment and Sex

Source	df	SS	MS	F
Treatment	1	160892.52	160892.52	4.71 *
Sex	1	431491.68	431491.68	12.71 *
Treatment x Sex	1	4921.02	4921.02	1.45
Residual	92	33941.58	1493429.70	

*p < .05

Table 2

Summary for Analysis of Covariance for Main and Interaction Effects on Signer Scores for Treatment and Sex

Source	df	SS	MS	F
Treatment	1	30.08	30.08	8.48 *
Sex	1	21.33	21.33	6.01 *
Treatment x Sex	1	56.33	56.33	15.87 *
Residual	92	156.17	3.55	

* p < .05

The mean and standard deviations for the treatments and sex conditions on Gates MacGinitie and Singer measures are illustrated in Table 3.

Table 3

Groups Means and Standard Deviations on Gates MacGinitie and Singer Scores for Treatments and Sex

	Group $\bar{X}$ and SD on Gates MacGinitie				Group $\bar{X}$ and SD on Singer			
	Treatments				Treatments			
	Experimental		Control		Experimental		Control	
Sex	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD	$\bar{X}$	SD
Girls	80.12	12.18	62.14	11.96	15.33	2.57	11.58	1.24
Boys	54.76	20.67	49.58	25.28	12.48	1.78	11.83	1.70

Using a Scheffé post-hoc statistic on significant main effects of treatments and sex on the Gates MacGinitie scores, the results indicated: (a) social relationships treatment group yielded significantly higher mean scores than the control; and, (b) girls yielded significantly higher mean scores than the boys. The Scheffé post-hoc statistic on the results of the Singer analysis showed: (a) social relationships treatment group yielded significantly higher mean scores than the control; (b) girls yielded significantly higher mean scores than the boys; and, (c) the girls in the social relationships-group yielded significantly higher mean scores than the boys in the control condition.

DISCUSSION

The investigation explored the effects of social relationships curricular compared to control treatments on measures of reading readiness and imaginativeness. The major results of the study were that: (a) On reading readiness measures, social relationships curricular group yielded significantly higher mean scores than the control treatments and girls significantly outperformed boys; (b) On the measures of imaginativeness, soccial relationships curricular group yielded significantly higher mean scores than the control treatments and girls outperformed boys (across the groups); (c) On imaginativeness the girls in the social relationships performed significantly better than boys in the control conditions.

The results of the study, supporting previous research (1, 18, 20), indicate that social relationships was a facilitator of cognitive learning of reading readiness concepts. Aspy and Roebuck (1), using I.Q. measures, and Piaget (17) with cognitive tasks, have both recognized the association between social relationships and cognitive tasks. Saltz, Dixon, and Johnson (18) note that social relationships through role play appeared to facilitate the identification process of the young child with the story characters and situations and increased motivational properties relative to intelligence and impulse control. Further, role play, permitting the children to feel, act, and think like the characters in the story passages, helped them to relate to the situations in the episode and facilitated their understandings of story content and concepts (18). Smilansky's (20) results, in addition, indicate that imaginative play increased children's language learning (relative to baseline measures) on the: (a) number of sentences and non-repeated

words used in them, and, (b) frequency of using contextual clues to derive word, sentence and paragraph meaning.

On group reading achievement measures, the fact that differences between boys and girls appeared after seven months of formal reading readiness instruction was consistent with the results of other investigations (4, 10, 21). Cultural, biological, and psycholinguistic theories have attempted to explain observed differences favoring girls over boys in early formal reading instruction. The effects of treatments in the present study apparently "washed out" given large observed differences favoring the girls in reading.

The results on the Singer showed that the imaginative predispositions of young children significantly increased through social relationships training. Although the same amounts of classroom time were given to treatment conditions, children in the social relationships curricula using role play received significantly higher scores on imaginativeness than those in the control treatment. According to Piaget (17), role play, as a cognitive "imaging" process, requires imaginativeness in which the child: (a) suspends reality, in differing degress, to achieve personal and/or social group goals; and, (b) uses "make-believe" in more or less degrees to reconstruct reality. Accordingly, role play could have provided an "escape" from reality and assisted flexibility and originality of thought. Feitelson and Ross (6) and Saltz, Dixon, and Johnson (18) have reported similar affects for role play on imaginativeness and originality of thought.

On the Singer inventory, girls did significantly better than boys on imaginativeness across groups. Further qualifying the results was a significant interaction effect which showed that girls in social relationships significantly outperformed boys in the control group. The results of

Garvey (7), Jones (9), McCune and Mathews (13), and Millar (15) also showed performance differences between girls and boys in imaginativeness and role play preferences; quality of make-believe; types of play; and, quality and quantity of language generated during play. Specifically, Garvey's (7) results indicate that verbal abilities in role play and general language performance in formal academic settings were greater for young girls than boys. Conceivably, the task required in social relationships treatment group could have been more conducive and facilitative for girls (than boys) considering its emphasis on verbal language (compared to the control condition). Also, the results of Jones (9) and McCune and Mathews (13) showed that young girls preferred play forms with verbal rather than physical elements.

There were a number of distinct limitations to the study. They were: (a) student populations and their SES levels used in the research; (b) measures employed in assessing behaviors; and, (c) the procedures employed in the treatment groups.

Further research might find solutions to the following extended questions:

a. What differential effects, if any, would child-generated versus adult-guided social relationships curricula have on reading readiness curricula and imaginativeness of young children?

b. What differential effects, if any, would verbal, verbal-motor, and motor forms of role play as rehearsal conditions have on reading readiness and imaginativeness of girls compared to boys?

c. What differential effects, if any, would fantasy versus reality based role play as rehearsal conditions have on reading readiness and imaginativeness of young children?

FOOTNOTES

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[2]Portions of the paper were presented at the Annual Meeting of the American Educational Research Association, San Francisco, 1979.

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